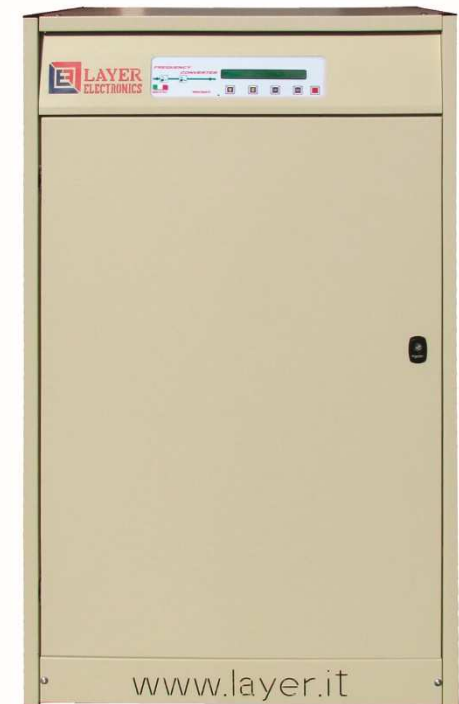


Professional CF frequency converters

between 1.5 and 1600 kVA

- *ON-LINE double conversion technology*
- *IGBT Technology with a high commutation frequency*
- *Insulation transformer in output (on request transformer in input)*
- *Very high crest factor (3 : 1 and more on request)*
- *High overload capability and short-circuit proof*
- *Well able to supply power to devices which produce significant distortion*
- *Small amount of harmonic distortion for mains (12-pulse or PFC rectifier upon request)*
- *Very low harmonic distortion (THD < 2%)*
- *Inrush current lower than nominal current*
- *Mimic flow diagram*
- *Event history with time stamp up to 4000 events*
- *Provision of optional computer interfaces (RS232-RS485-SNMP-CAN) and voltage-free contacts*
- *High MTBF (> 150000 h)*
- *Low MTTR (< 0.5 h)*
- *High efficiency starting from 25% of the load with consequent reduction of the operating cost*
- *Easy installation and maintenance with full front accessibility*
- *Compact size (customized cabinets on request)*
- *Higher protection degrees on request*



The CF series of frequency converters offers the **ultimate in terms of quality and reliability**. LAYER ELECTRONICS recommends the CF series of frequency converters to all those driven by professional needs who therefore need very **high performance** products.

Since its introduction on the market on 2005, the CF series of frequency converters has shown great reliability and robustness, becoming the top product and finding application in the most different situations, **both civil and military** (CAGE/NCAGE/NATO code: AD484).

The **high reliability** is due to the high professional level of components used and to its simplicity.

The management through Digital Signal Processor (DSP) allows so many controls to also **protect** the frequency converter and the connected load **under the harshest electric conditions**, environmental and in overload. Particular attention is given in safeguarding the connected load through an **insulation transformer in output**.

The CF series of frequency converters is a high technology product. The CF series is available for 50-60-75-200-400 Hz in 1-Ph version from 1.5 kVA to 50 kVA (available also with 3-Ph input) and in 3-Ph version from 5 kVA to 1600 kVA.

Technical Data CF series 1-Ph

MODEL	CF-1/1	CF-3/1	CF-5/1	CF-7/1	CF-10/1	CF-15/1	CF-20/1	CF-30/1	
Power - kVA	1.5	3	5	7.5	10	15	20	30	
Input									
Phases	1-Ph / 3-Ph + N								
Voltage	220 / 230 / 240 V // 380 / 400 / 415 V \pm 20% (100 / 110 / 115 / 120 / 127 V // 200 / 208 / 220 / 440 / 480 V on request)								
Frequency	50 / 60 Hz \pm 5%								
Output									
Wave-form	SINE WAVE								
Harmonic distortion	< 2%								
Crest factor (non-linear load 75%)	3 : 1								
Phases	1-Ph								
Voltage	220 / 230 / 240 V \pm 1% (100 / 110 / 115 / 120 / 127 V on request)								
Frequency	50 / 60 / 75 / 200 / 400 Hz \pm 0.1%								
Overload	125% for 10 min, 150% for 1 min, 200% for 0.1 sec.								
Efficiency (AC-AC)	> 92%								
Protections	Overload, overtemperature, min/max input voltage, min/max inverter voltage								
Short-circuit	With electronic protection								
EMI Suppression	EMI/RFI Filter								
Signals									
LED	Mains, rectifier, inverter, output								
Display	Standard								
Acoustic	Overload, overtemperature, fault								
Computer interface	RS232 - RS485 - SNMP - CAN (optional)								
Environmental									
Temperature	0°C \div 50°C								
Non-condensing humidity	0% \div 95%								
Noise (at 1 m)	< 60 dBA								
Protection rating	IP20								
Dimensions									
W x D x H - mm	270 x 630 x 730		800 x 400 x 1050		800 x 400 x 1250			800 x 600 x 1300	
Weight - kg	45	60	110	130	150	200	250	320	

UPS Classification according EN 62040-3	Class VFI
CE Marking	2014/30/EU; 2014/35/EU
Compliance with the standards	UPS: EN 60146-1-1, EN 62040-1-1, EN 62040-1-2, EN 62040-2, EN 62040-3, EN 60742; EMC: 2014/30/EU; Low voltage: 2014/35/EU

Technical Data CF series 3-Ph

MODEL	CF-5	CF-7	CF-10	CF-15	CF-20	CF-30	CF-40	CF-50	CF-60	CF-80
Power - kVA	5	7.5	10	15	20	30	40	50	60	80
Input										
Phases	3-Ph + N									
Voltage	380 / 400 / 415 V ± 20% (200 / 208 / 220 / 440 / 480 V on request)									
Frequency	50 / 60 Hz ± 5%									
Output										
Wave-form	SINE WAVE									
Harmonic distortion	< 2%									
Crest factor (non-linear load 75%)	3 : 1									
Phases	3-Ph + N									
Voltage	380 / 400 / 415 V ± 1% (200 / 208 / 220 / 440 / 480 V on request)									
Frequency	50 / 60 / 75 / 200 / 400 Hz ± 0.1%									
Overload	125% for 10 min, 150% for 1 min, 200% for 0.1 sec.									
Efficiency (AC-AC)	> 92%									
Protections	Overload, overtemperature, min/max input voltage, min/max inverter voltage									
Short-circuit	With electronic protection									
EMI Suppression	EMI/RFI Filter									
Signals										
LED	Mains, rectifier, inverter, output									
Display	Standard									
Acoustic	Overload, overtemperature, fault									
Computer interface	RS232 - RS485 - SNMP - CAN (optional)									
Environmental										
Temperature	0°C ÷ 50°C									
Non-condensing humidity	0% ÷ 95%									
Noise (at 1 m)	< 60 dBA									
Protection rating	IP20									
Dimensions										
W x D x H - mm	800 x 500 x 1100		800 x 600 x 1300			800 x 800 x 1300			800 x 800 x 1500	
Weight - kg	150	160	170	200	250	270	290	310	580	650

UPS Classification according EN 62040-3	Class VFI
CE Marking	2014/30/EU; 2014/35/EU
Compliance with the standards	UPS: EN 60146-1-1, EN 62040-1-1, EN 62040-1-2, EN 62040-2, EN 62040-3, EN 60742; EMC: 2014/30/EU; Low voltage: 2014/35/EU

MODEL	CF-100	CF-120	CF-150	CF-200	CF-250	CF-300	CF-400	CF-500	CF-600	CF-800
Power - kVA	100	120	150	200	250	300	400	500	600	800
Input										
Phases	3-Ph + N									
Voltage	380 / 400 / 415 V ± 20% (200 / 208 / 220 / 440 / 480 V on request)									
Frequency	50 / 60 Hz ± 5%									
Output										
Wave-form	SINE WAVE									
Harmonic distortion	< 2%									
Crest factor (non-linear load 75%)	3 : 1									
Phases	3-Ph + N									
Voltage	380 / 400 / 415 V ± 1% (200 / 208 / 220 / 440 / 480 V on request)									
Frequency	50 / 60 / 75 / 200 / 400 Hz ± 0.1%									
Overload	125% for 10 min, 150% for 1 min, 200% for 0.1 sec.									
Efficiency (AC-AC)	> 92%									
Protections	Overload, overtemperature, min/max input voltage, min/max inverter voltage									
Short-circuit	With electronic protection									
EMI Suppression	EMI/RFI Filter									
Signals										
LED	Mains, rectifier, inverter, output									
Display	Standard									
Acoustic	Overload, overtemperature, fault									
Computer interface	RS232 - RS485 - SNMP - CAN (optional)									
Environmental										
Temperature	0°C ÷ 50°C									
Non-condensing humidity	0% ÷ 95%									

Noise (at 1 m)	< 60 dBA									
Protection rating	IP20									
Dimensions										
W x D x H - mm	1200 x 1100 x 1900			1400 x 1100 x 1900	1700 x 1300 x 1900		2180 x 1500 x 2160		3400 x 1300 x 1900	4360 x 1500 x 2160
Weight - kg	900	1000	1100	1700	2000	2400	2700	3200	4800	5400
UPS Classification according EN 62040-3	Class VFI									
CE Marking	2014/30/EU; 2014/35/EU									
Compliance with the standards	UPS: EN 60146-1-1, EN 62040-1-1, EN 62040-1-2, EN 62040-2, EN 62040-3, EN 60742; EMC: 2014/30/EU; Low voltage: 2014/35/EU									